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Original Communications.

DISTRICT SOCIETIES,

THEIR PURPOSE, POWERS AND LIMITATIONS.

AT a recent meeting of the Norfolk (Mass.) District Medical Society, on a motion—"that the President and Secretary of the Society be authorized in behalf of the Society to appoint delegates to the next annual meeting of the American Medical Association," on being appealed to in course of the debate—

Dr. Cotting said that he would endeavor, in as few words as possible, to answer some of the questions just asked, though he thought that a little examination of the Charter and By-Laws would satisfy any member that there was no great difficulty in their solution.

In the first place, the whole matter of delegates to the American Medical Association, and their appointment, so far as the Massachusetts Medical Society and its Districts are concerned, might be found briefly set forth in the Society's "Communications," just published for 1871, Proceedings, page 210.

There might not be any impropriety in voting to authorize the President and Secretary of a District Society to appoint its quota of delegates; but such a vote was unnecessary at this time, inasmuch as these officers in the Norfolk Society had invariably done this—the Councillors having given the power long ago (1852), in case District Societies, to whom the Councillors had then delegated the matter, failed or omitted to make the appointments in season.

But, by whomsoever appointed, the delegates must have their credentials signed by the President and Secretary of the Massachusetts Medical Society (in addition to any other signatures these credentials may bear); and the delegates must be styled "*Delegates of the Massachusetts Medical Society*," and not of a District Society. Deviations from this rule, if any such have occurred, must have been through accident or misapprehension.

The State Society existed long before there was a District Society, and would continue to exist, with all its privileges and powers, if all the District Societies were dissolved. While we remain a District Society we must conform to the Charter and By-Laws of the "Parent Society." The Massachusetts Medical Society has been truly called the Parent Society, the District Societies owing to it, and to it alone through the Councillors, their very existence and continuance:—"*And be it further enacted*" (says the Act of 1803, § 5) "That the said Councillors, upon application of any five members of the said Society, may establish, within such districts and portions of this Commonwealth as they shall think expedient, subordinate societies and meetings, to consist of Fellows of the said Corporation residing within such districts respectively"—and the Act goes on, in the same sentence, to state the purpose for which said Councillors "may establish" District Societies, "wherein," it continues, "the communication of cases and experiments may be made, and the diffusion of knowledge in medicine and surgery may be encouraged and promoted." A little further on, after a clause relating to Councillors and Censors, now repealed, the same Act adds:—"And the members of such subordinate Societies shall be holden to report to the Councillors of the general Society all such cases as may be selected for their importance and utility; and the said subordinate Societies shall be subject to the regulations of the general Society in all matters wherein the general Society shall be concerned; and the said subordinate Societies may appoint their own officers, and establish regulations for their particular government, not repugnant to the By-Laws of the general Society; and shall be capable to purchase, and receive by donation, books, philosophical and chirurgical instruments, or other personal property, and may hold and dispose of the same,

exclusive of any authority of the general Society."

Thus is the *purpose* of District Societies distinctly stated, their *duties* defined, and their *powers* limited, by the early State law of 1803, which has remained unaltered in these respects to the present time, and is now in full force.

By the "Revised Statutes," 1836, the Councillors were authorized to subdivide or alter any of the said districts and to make new districts whenever the public good may seem to require it.

Before 1850 there were District Societies only here and there in the State—established at irregular intervals. In 1850 the Councillors divided the whole State into districts, and established a Society in each district. An addition to the Charter in that year, 1850, gave to the District Societies the privilege of choosing Councillors and Censors, as follows:—"Each of the District Societies into which the Massachusetts Medical Society has been or may be divided, may elect annually, by ballot, from among its members the Councillors and Censors to which, by the By-Laws of the Society, it may be entitled."

Such are all the powers and privileges given to the District Societies by the laws of the State, with all that is said of them in the Charter of the general Society. In accordance with these State laws, District Societies are established by the Councillors; and so established expressly for the promotion and diffusion of medical science, and for nothing else; and by these laws, being invariably called *subordinate* Societies, they are subject to the regulations of the general Society in all matters which concern the latter. In this statement we are not speaking of what some persons might prefer, or what any of us might think a better plan, but what actually exists according to and by the present laws; yet it may be added that committees of the Society's most eminent Fellows have been unable to suggest material improvements, and that it has, more than once, been held up as a model by gentlemen of other States. The organization has effected much good for the profession, and, so far as known, never worked injury to individuals.

Furthermore, as to delegates to the American Medical Association—if the Councillors (to whom, from the start, this whole matter was referred by the general Society) should again vote, as last year, not to send—a District Society, of itself, could not send delegates in its own name, for its only authority to appoint delegates is derived from votes of the Councillors in 1852, which votes direct that the credentials, "filled up by the District Societies in such a manner as they may see fit," shall be signed by the President and Secretary of the general Society, and that the delegates shall be called "Delegates of the Massachusetts Medical Society."

Hitherto the difficulty has been to induce members to go as delegates to the American Medical Association, and, as far as Dr. C. was aware, the appointment had never been refused to any one in the Norfolk District who had intimated the slightest desire for it.

The vote of the Councillors, *not to send*, was limited to one year. That year having passed, there is now no obstacle in the way, and any District Society may appoint delegates in the usual prescribed method. But as the power to appoint, in case of omission by any District Society, is already in the President and Secretary of such District Society, the vote proposed here and now is, as before stated, unnecessary, and to pass it is only to cumber the Records with useless matter.

A CASE SHOWING GREAT TENACITY OF LIFE AFTER GUN-SHOT INJURY TO THE SPINAL CORD.

By W. F. McClelland, M.D., Denver City, Col.

July 16th, 1871, M. L. M. received a gun-shot wound at the hands of his sister-in-law, the ball passing directly through the spinous process, foramen and body of the fourth dorsal vertebra, thence through the substance of the right lung, lodging somewhere in the chest, and causing complete paralysis of all the body below the wound. The hæmorrhage at first was quite free, both from the wound and by the trachea. I was called to the patient on the same day. On examination, I was able to pass my probe through the opening made by the ball some five inches into the right lung, and with a little manipulation I could move the fragments of the bone. The patient was confined to his bed from that time, with no signs of returning sensation or motion; all this time the bladder has been relieved by the catheter, and the bowels moved by distending the rectum with injections. Some six or eight weeks after the accident, the wound in the back healed, and the lung recovered, so that it performed its functions almost as well as its fellow, except that at times a spasmodic cough came on, which lasted for a few minutes only. About the

same time the lower extremities became dropsical, and several blisters made their appearance, one over the sacrum and one of considerable size on each thigh.

Nov. 24th.—The ulcers became very large, and afterwards constantly increased. His appetite was good from the first, and he was able to transact business in all respects as well as when in the enjoyment of all his bodily functions. His suffering was very slight.

I have just learned that Mr. M. died Nov. 26th, having lived 133 days after the receipt of his wound. His last days were passed in another County (Douglas), some forty-seven miles from Denver, where he was attended by Dr. Sperry, who made the *post-mortem* examination.

I very much regret the circumstances that compel me to forward this without the full particulars of the pathological condition of the cord and lungs.

This is one more case added to the list showing that the complete severance of the spinal cord close to the great cerebral mass does not necessarily cause immediate extinction of life. The treatment was about the same as is usually resorted to in such cases, having for its object the relief of pain when necessary, and to keep up the tone of the system if food should fail to meet its wants. No surgical interference was ever attempted, as I was persuaded that it would avail nothing.

REMARKS ON CATARACT.—III.

By Edward G. Loring, M.D., New York.

Since sending my last paper to the Journal, in which I endeavored to prove by argument that my original statement that Graefe had meant the test of vision ½ to apply to all his cases of cataract was correct, I have discovered that Graefe has himself settled the question in the affirmative beyond a shadow of a doubt. His statements are directly to the point at issue, and are taken from a discussion on cataract at the Ophthalmological Congress held in 1864. (*Zehender*, 1864, p. 343.) Graefe says:—

"It would certainly be very desirable to come to some agreement in regard to the amount of vision. I am at present employed in making out a statistical record of over 1600 cases of flap extraction, in which I have brought the results into four groups:

"1. Complete success; the sharpness of vision amounts at least to ½. The patients can also read the finest print.

"2. The sharpness of vision exceeds $\frac{1}{10}$. The patients can only read the largest print, but are able, if the eccentric vision is proportionately good, under ordinary circumstances, to go about alone.

"3. The patients can count fingers at, at least, one foot.

"4. The patients remain on even a lower grade than the last, and have either a minimum qualitative, or only a quantitative perception of light, or indeed no perception of light at all.

"Perhaps this or some similar classification might be adopted by the Society for the purposes of comparison."

This stamps the fact at once not only that Graefe meant the test to apply to the whole 1600 cases, but that he wished the Society to adopt either the classification which he had used in his own cases or a similar one based on scientific principles, and not to rely on the worthless one of "fine print." Could more overwhelming proof as to Graefe's real intentions be produced? and I only regret that I should have imposed on such as were enthusiastic enough to read them what must now appear as my all too redundant remarks. As to myself, the labor of defending the statistics of one whose word in ophthalmic matters has been generally considered almost as law, has been from the beginning more a pleasure than a task.

This ends, so far as I am concerned, the discussion of this point. But a word of explanation is necessary, as the manner in which I grouped the percentages into series in my last was objected to.

I did this for the following reasons:—first, because Graefe had himself given the rates in these three forms, viz., 80, 84 and 91 per cent., and I wished to keep his figures; secondly, as I had taken the lowest, I thought I was entitled to take also the intermediate and highest to form an average. These three figures averaged give 85 per ct., while that from the pressure bandage alone gives 84 per cent. This difference of 1 per cent. I allowed to remain for my third and principal reason, which was because all my colleagues and those especially who were the immediate disciples of Graefe, and who should have been best acquainted with his works, denied, till confronted with the figures, the existence of such statistics.

Again, in my former paper I took, to be on the safe side, the highest estimate of the linear which I could find, and assumed that "what might have been" really was, and that Graefe did actually get 94 per cent. of success with vision ½. But a later publica-

tion than the one then referred to shows that he actually got only 90·4 per cent.* If, now, we take the difference between the fractions ¼ and ⅛, as in my former paper, and subtract as in that case 9 per cent., we shall then have 81·4 per cent. linear against 84 per cent. of flap. But the fact is, that in order to be within safe limits, we have leaned much too far on the other side, and taken an absurdly low percentage to represent the difference between vision ¼ and ⅛.

The fairest way of getting a correct estimate is manifestly by actual count, and, as Graefe's statistics did not furnish such data, the difference between the fractions was taken as a basis of comparison. But even if we cannot obtain from Graefe's statistics the desired information, we can get a very good and by far the most correct approximation towards the proper number of cases to be subtracted from the tables of others. To do this we will take six tables (all, in fact, to which we had access) where the specific results are given. Two of these tables are taken from the Reports of the Boston Eye and Ear Infirmary, three from Dr. Knapp and one from Dr. Derby.

These six tables give, when averaged, 21 cases per hundred more with vision ¼ than ⅛. If, then, we take 21 from 90·4 we have as a result 69·4 perfect success with the linear against 84 with the flap, with V=¼ in each. But allowing Graefe from superior skill to get 25 per cent.—and this is an enormous concession—less cases with vision ¼ than other operators, we still must subtract 16 per cent. from 90·4, which leaves 74·4 linear against 84 of the flap, a difference of 10 per cent. in favor of the latter operation.

Reports of Medical Societies.

BOSTON SOCIETY OF MEDICAL SCIENCES.

EDWARD WIGGLESWORTH, JR., M.D., SECRETARY.

Dec. 5th, 1871.—The Society met at the house of Dr. Ellis, Dr. Ellis in the chair.

Determination of the Amount of Urea in Urine.—Dr. Bowditch showed an apparatus for the quantitative examination of urea in urine by the method proposed by Dr. Hüfner,† namely, the decomposition of urea by subbromite of soda.‡ The nitrogen gas set free by this decomposition is the measure of the amount of urea contained in the urine. The apparatus in which the decomposition takes place consists of two glass bulbs connected by a glass stop-cock. The lower and smaller of the two bulbs is closed at the end opposite the stop-cock, while the larger one ends in a straight glass tube which is inserted through the bottom of a cup-shaped vessel made from a pint-bottle by breaking off the lower two-thirds.

The urine, diluted with four or five times its volume of distilled water, is placed in the lower bulb, the cubical contents of which must be previously determined by filling it with quicksilver and weighing the amount contained. The stop-cock between the two bulbs is then closed and the upper bulb filled with the reagent, which is prepared as follows. Dissolve 100 grammes of caustic soda in 250 cubic centimetres of distilled water. Wait till the mixture becomes cool, then add 25 cubic centimetres of bromine. Shake and let it stand over night.

The upper bulb and the cup above it being filled with the reagent, a measuring glass graduated to cubic centimetres, also filled with the reagent or with distilled water, is inverted over the upper end of the tube which projects through the bottom of the cup.

The stop-cock between the two bulbs is then opened, and the diluted urine being specifically lighter than the reagent rises and mixes intimately with it. Decomposition of urea takes place at once, and the nitrogen gas set free rises and collects in the measuring glass, where its amount can be determined by the ordinary methods of gas analysis. The quantity of urea contained in the known volume of urine can then be calculated by a simple chemical proportion. Greater accuracy may be attained by warming the apparatus while the reaction is going on. This produces a more complete decomposition of the urea, but the reagent is also decomposed with the liberation of oxygen. The mixed gases must, therefore, be collected over mercury and subjected to a regular analysis.

The great advantage of this method is the rapidity with which the analysis can be performed.

Cancroid of the Œsophagus.—Dr. Fitz showed a specimen of cancroid of the œsophagus, seated at the lower third, not encroaching upon the stomach. Trachea and bronchi also free from disease. The mesenteric glands, at the root of the mesentery, were converted into a mass of diseased

* Klin. Mon., 1868, p. 17.
† Jour. für prakt. Chemie [2], Bd. 3.
‡ Unterbromigsaures Natron.

growth as large as the closed fist. The œsophagus was almost entirely destroyed by the tumor, and food was obliged to pass for a considerable distance over the cancroid. A softened cavity existed behind the wall of the stomach, in the diseased growth, as large as a plum; from this a free opening into the cavity of the stomach existed, a quarter of an inch in diameter. The mucous membrane bordering this opening presented no evidence of infiltration.

The specimen was of unusual interest from the fact that generalization had occurred, there being small secondary nodules in the lungs towards the periphery. Of still further interest was the fact that a large nodule, of the size of a peach-stone, was found at the upper posterior portion of the right ventricle, partially imbedded in the muscular wall, projecting some three fourths of an inch into the ventricular cavity. Till within comparatively few years, this form of disease was considered as having merely a local malignity, yet here was a case where there was not only infection of the neighboring lymphatic glands, but also of the lungs and heart, suggesting mechanical metastasis into the course of the circulation, as there was no evidence of disease of the lymphatics leading from these organs. In Förster's Pathological Anatomy, only two cases of cancroid of the heart were mentioned.

Dr. Fitz stated also that, while in Berlin, he had seen a similar case of generalized cancroid, the primary seat of disease having been in the uterus. Secondarily, the lumbar lymphatic glands and the liver were similarly diseased.

Dr. Ellis remarked that the case was interesting in a clinical point of view on account of the resemblance of the symptoms to those of chronic ulcer, viz., vomiting almost immediately after eating such large quantities as to show that the food had entered the stomach, hæmatemesis, and pain between the scapulæ.

There was also marked cirrhosis of the liver, without the usual symptoms, and diseases of the kidneys, with many casts in the urine. This was the second case Dr. Ellis had met with.

Dr. White asked if Dr. Fitz considered "metastasis" necessary for such propagation of disease.

Dr. Fitz said, Virchow considered the generalization of tumors to take place in, mainly, three ways; by direct filtration of fluids through contiguous tissues or by means of lymph or by bloodvessels. In malignant tumors tending to degenerate, as sarcoma, small secondary nodules are often found on the folds of the mesentery, theoretically explained by particles gliding down the mesentery and becoming fixed at the angle of junction.

Dr. White alluded to Virchow's theory of syphilis as originally a local primary disease followed, by metastasis, by other appearances as sequelæ.

Dr. Hay remarked that in children, glioma of the brain occurs so often that there is but little chance of saving the child's life by removing the glioma from the orbit.

Dr. Wadsworth attributed the lack of success to deferred extirpation, since the child cannot and the parents do not notice the trouble until too late. Very early extirpation, when the optic nerve is not involved, he considered would give a fair chance of life.

Dr. Hay desired to refer to metastatic formation of glioma in parts distant from the primary seat, such, for instance, as in the first case reported in Knapp's "Intra-ocular Tumors," where there was congenital glioma of the retina, without the optic nerve being affected, but with metastasis in the liver, lungs and diploë of the cranial bones.

Dr. Ellis wished to know if the dictum of metastasis applied also to tubercle.

Dr. Fitz said yes, whether by local infection as in cases of so-called solitary tubercle of the brain and supra-renal capsules, or by general infection as in acute miliary tuberculosis. In the first case the tubercle may be large, with miliary ones around it, and grows by local malignity.

It has been asserted of late that migratory cells push out and form nuclei for secondary nodules, which view explains the case quoted by Dr. Hay, in which there was no disease of the optic nerve, the cells having passed through the nerve and located themselves in the brain.

Mentality of Vision.—Dr. Hay offered an analysis of what takes place in ordinary normal human vision, distinguishing three elements, all of which are contained in the complete act. First, the reception on the retina of an optical impression of a certain extent, color, and perhaps motion, and the transmission of this impression, modified, it may be, along the optic nerve, the person being supposed to be looking at the object. Second, a consequent mental idea of an object of a certain position (form, size, distance) and color; and indirectly of the consistence, &c., this idea being more or less complex according to the development of the individual.

But these two parts are not enough to constitute *seeing*; a third is necessary; for instance, when one says he sees a tree, he not only receives the optical impression and has in the mind the idea of a tree, but he also *believes* in the existence of an external object corresponding to this idea, and at which he thinks he is looking.

It is no part of this communication to consider the nature of ideas or of belief, nor how the ideas and belief consequent on the optical impression on the retina are brought about; how, for instance, the idea of three dimensions is occasioned by a retinal impression involving form, color, and often motion, and accompanied by certain corresponding muscular efforts subservient to the proper direction and focussing of the eyes; but it is only proposed to distinguish in the ordinary normal act of vision the three elements, reception (of the optical impression), idea and belief.

If it is objected that other ideas than of position and color, such as that of consistence, do not properly make part of vision, it may be said that as vision results from the mind and eye being in relation with each other, it depends in part on the mind, and, therefore, that idea which the mind may have originally obtained through other channels than the eye, may yet make part of the complex act of vision.

The thing seen is then either an *idea conceived* or the *real object believed in*; and seeing is conceiving and believing, *consequent upon* the reception of an optical impression.

We might say that the retina feels the focal retinal impression, but the latter is different in size and in its inversion from what we see, and is only one stage of the process by means of which we come mentally to see.

As to variations from the normal process, setting aside those in the formation and transmission of the retinal impression, there may arise an idea inconsistent with the outward object, and this incorrect idea might, or might not, be believed in. For instance, with paralysis of one of the external ocular muscles, a false idea of two objects, when there is but one real object, arises. The error, however, is generally, though it might not always be immediately, recognized. Again, one might be deceived by looking at a mirror. In such case, an erroneous idea (of a real object behind the mirror) would be temporarily believed in.

Or, again, an idea corresponding truly to the object might present itself and for a time not be believed in. For instance, if a person supposed to be dead should suddenly pass rapidly by us; here we have a retinal impression and the right idea corresponding to it would present itself. But so long as we supposed the person to be dead, we should not say we had seen him, at least with ordinary vision; we should say we had seen some one extremely like him; that is, belief that the object is there, is essential to what we mean by the expression seeing an object.

Dr. White considered Dr. Hay's conception of vision too general, in fact vision plus ratiocination. Dr. James held that it included perception. Dr. Dwight, the same, adding that if perception is once admitted all general sensations might come under the same classification. Dr. Ellis held that if no mental quality is needed, then a photographic plate sees.

Dr. Jeffries considered that observers now divide seeing and perception, that is perception and judgment; that Dr. Hay's last division was judgment founded on experience and dependent upon recollection; that, as such, it could exist in a person born blind and would depend upon the sense of touch.

Dr. Bowditch added that such ideas of objects obtained from touch vary greatly from the mental picture obtained by sight, and cited the case of a young man born blind, who subsequently obtained his sight, and was then unable to recognize familiar objects, his dog and cat, for example, until he had felt of them, the tactile impressions not having created visual ones. Having once satisfied himself, by feeling, however, he distinguished them subsequently by sight.

Rapidity of Transmission of Nerve Force.—Dr. Bowditch then showed some tracings on smoked paper of curves marking the rapidity of the vibration of a tuning-fork, and said that the rapidity of transmission of nerve force might be determined by myographic experiments in the following way. The tendon of an excised muscle is attached to a lever, the finely pointed extremity of which rests against a rapidly revolving cylinder covered with smoked paper. As long as the muscle is at rest the point of the lever draws a horizontal straight line round the cylinder, but when the muscle contracts, the point describes a curve on the surface of the cylinder, the height of which above the horizontal line is proportionate to the amount of contraction of the muscle.

The nerve supplying the muscle is irritated first at a point near where it enters the muscle, and afterwards at a point as far as possible from the first point, and the time which elapses between the giving of the

irritation and the commencement of the contraction determined in both cases.

For this purpose, a projecting metal point on the axis of the cylinder is made to open an electrical current in the primary coil of an induction apparatus, and the momentary current induced in the secondary coil is used to irritate the nerve.

The cylinder has therefore at every revolution the same position at the moment when the nerve is irritated, and the curves of muscular contraction will coincide when the time elapsing between the irritation and the commencement of the contraction is the same.

Now it is found that the two curves obtained by irritating the nerve at the above-mentioned points do not coincide, but are separated on the cylinder by a distance which is the measure of the time occupied by the nerve force in passing between the two points. To obtain the value in time of this distance it is only necessary to know the rate at which the cylinder revolves. This is determined by allowing a tuning-fork, vibrating at a known rate, to record its vibrations on the revolving cylinder. We have, then, as the data of the problem,

I. The length measured on the cylinder of one vibration of known duration, for example, 01".

II. The distance measured on the cylinder between the commencement of the two curves of muscular contraction caused by irritating the nerve at two different points.

III. The distance measured on the nerve between the two points thus irritated.

From these three data the rate of transmission of nerve force can be calculated.

Let A = length in mm. of a vibration of ·01";

Let B = distance in mm. between the commencements of the two curves;

Let C = distance in cm. between the two points irritated.

Then $\frac{AC}{B}$ = distance in metres travelled by the nerve force in 1".

Dr. White asked if the rapidity of nerve force could be properly measured by means of a circle of persons holding hands.

Dr. Bowditch responded that it could. The time required to pass a hand pressure round the circle diminishes by practice, for a while, but a limit is soon reached, and then about the same time is occupied each time that the experiment is tried.

Selected Papers.

ON THE DIFFERENT FORMS OF PNEUMONIA.

By H. C. Wood, Jr. M.D., Clinical Lecturer at the Philadelphia Hospital.

Like many other affections, pneumonia occurs both in an acute and a chronic form, though, as we shall see directly, what is called chronic pneumonia is often rather the result of acute pneumonia than a distinct, true inflammatory disease. The amount of cellular tissue between the air-sacs is so small, the union of bloodvessel, nerve and cells is so close, and the cavities of the air-vessels are so ready to receive secretion, that it is *a priori* inconceivable that an acute inflammation should occur which should confine itself to the inter-vesicular tissue, and whose exudation should be poured out into the walls—not into the cavities—of the air-sacs; and, as clinical observation bears out this anatomical inference, we are justified in our first assertion, that in all acute pneumonias the exudation takes place into the air-sacs.

A thought as to the anatomical structure of the lungs will at once show what the nature of such exudation must be. The blood-vessels abounding everywhere pour forth the exudation material of inflammation—fibrinous serum—which soon coagulates and forms the major part of the matters filling up the air-sacs. At the same time with this fibrinous serum no doubt white blood-corpuscles escape, and the epithelial cells lining the air-sacs, responding to the general irritation, multiply, so that under the microscope the exuded material is seen to be made up both of fibrinous filaments and cel lular elements.

In most inflammations, as is well known, there are two diverse possible exudations, whose nature is largely determined by, or at least associated with, a certain condition of the general system.

Thus, pleurisy in a debauchee produces a profuse serous exudation, while in the strong man it plasters the membrane with lymph. The same thing occurs in pneumonia. In the vigorous adult the exudation, even as first poured out, is almost a jelly, while in the old or prematurely broken-down it is a thin liquid, giving origin to the so-called prune-juice sputum.

There can be no doubt that in these different forms of ordinary fibrinous pneumonia the proportion of the cell-element varies

in the exudation; yet it is always a subservient, secondary part of the exuded material.

There is, however, a third form of exudation, in which the cellular element predominates, and whose character is due not so much to any recognizable condition of the system as to the anatomical construction of the lung.

Remembering that the lining membrane of the bronchial tube is continuous with that of the air-cells, and bearing in mind also the tendency which all inflammations have to travel along a tissue or membrane affected rather than to pass to the diverse tissues upon which such membrane rests, you will see at once that *a priori* we would expect to find a form of pneumonia whose origin should be a catarrhal or epitheliai inflammation of the bronchial tubes, and whose anatomical characters should be catarrhal rather than fibrinous, or, in other words, whose exudation should be composed chiefly of imperfectly-developed epithelial cells or mucous corpuscles. It also seems to be an anatomical necessity that such disease should at first affect small isolated portions of the lungs, as the minute lobules, although by the coalescence of these the whole lobe of a lung may at last be consolidated. Every bronchial tube has subject to it as it were a certain territory of lobules, forming, it is evident, in regard to a bronchial tube of any size, a triangular mass, whose apex is the tube in question, its base the outer portion of the lungs.

Clinical observation has continually demonstrated that in children this form of acute pneumonia is exceedingly common. * * * * * It is rare in adults; partly, no doubt, because the development of activity of the child is greater than that of the adult, and the epithelial tissues partaking of this excessive developmental power are more ready for that rapid production of cells which we call catarrhal inflammation, and partly because the formation of such pneumonic consolidation in the child is often due primarily not so much to a passage of the inflammation from the bronchial tubes to the air-vesicles as to a collapse of the latter from the child's want of power to expel the secretions of the bronchial tubes and to the anatomical changes consequent on such collapse. In the adult, collapse of the lobules of the lung from such cause is so rare, except in certain low fevers, that it may be practically said not to occur. * * *

Ordinary pneumonia—that which is known by the German as croupous, by the French as fibrinous—is normally a cyclical disease, in which, at the end of a period varying from three to seven days, the exudation being completed, there is a sudden fall in the temperature and abatement of the general symptoms, the patient entering as it were upon convalescence, or at least a period of repair, with the road to health open to him only by the freeing of the vesicles from their contained exudation. As the little plugs that fill the air-sacs are mostly much larger than the openings into the bronchial tubes, it is necessary that the exudation matter should be softened if it is to be expelled or absorbed. Rindfleisch believes that but a comparatively trifling portion of the exudation is absorbed, and that nearly all of it is cast out by expectoration. But, from clinical observation, I think that absorption bears a very much more important part in the removal of the exudation than this. However this may be, there can be no doubt that both absorption and expectoration aid in the removal, and that to facilitate these the fibrinous plug undergoes two distinct changes—one a fatty degeneration, the second the conversion of the fibrinous filaments into a soft gelatinous mass, chemically allied to mucin; and that while this is occurring there is a free formation of cells upon, and, to some extent, even within, the alveolar walls. If matters progress favorably after the exudation is softened, it is gradually removed by expectoration and absorption, so that at last the lung is free and the patient well. Unfortunately, however, not always does the disease end so favorably; for, instead of resolution following exudation, the latter may remain unchanged, and the result be, first, chronic pneumonia; or, secondly, suppurative changes in the lungs may occur, and the so-called gray hepatization be the result; or, thirdly, caseous degeneration may ensue, and the so-called infiltrated tubercle result; or, fourthly, gangrene of the lung may take place.

The anatomical cause of the chronic pneumonia remaining appears to be simply the failure of the ordinary changes to occur. The fibrin does not undergo change into mucin, and the cells seem simply to shrivel away, but not to be in sufficient quantity to cause disintegration of the entire mass. Why these changes fail to occur I do not know. Possibly there is something in the original constitution of the exudation which interferes; possibly the ancients were not altogether wrong in their belief in the absorbents playing an active part in the physiological and pathological economy. * * *

Niemeyer makes no distinct allusion to it

in the article in his Practice upon Pneumonia. Jaccoud, however (Traité de Pathologie interne," tome ii. p. 49), describes it very distinctly. He states that there are two forms of it: one in which the arrest of the acute process seems to occur at the end of the stage of exudation; the other in which it takes place during the period of liquefaction and absorption. He says that in the first case the lung-tissue is compact, homogeneous, impermeable, vaguely granular. The appearance is very much that of the acute disease, the only difference being in the color and contained liquids; the hyperæmia has disappeared, and the color become slaty-gray, with black spots, due to the deposition of pigment granules; the absorption of the liquid is total, so that the tissue is dry and condensed. In the other case, the aspect of the lesion is different: it does not form a compact mass all in one block; the permeability of the lung is established in places, and the alveolar cavities contain some fibrin, dried and fatty purulent globules, and atrophied alveolar cells: the breaking down of the exudation has taken place, but the elimination has been arrested.

Of the second of these forms I know nothing from experience; the first I have seen repeatedly. How long this form of chronic pneumonia will endure I do not know, but I have seen many cases in which the history pointed to its having existed for a long time. It is probable that in many instances it finally causes chronic interstitial pneumonia, and, at last, contraction and a cirrhotic condition of the lung, or else ends in caseous degeneration. That it often does not do so for a very long time—that patients far advanced in life die, and portions of the lungs are found affected with chronic pneumonia, whose origin is obscured in the far past and whose existence was not expected during life—I most certainly know. * * *

The second termination of pneumonia in our schedule is in diffuse suppuration, if such term is allowable—that known as gray hepatization. * * * It is always to be feared in any case when the sudden fall of temperature—the crisis—fails to develop, or, developing itself, fails to persist, and, at the same time, very low typhoid symptoms are manifested; and especially is the danger imminent when along with these symptoms coarse moist râles are to be heard in the affected lung. Some authorities ascribe importance to distinct chills or repeated slight shiverings as diagnostic of the formation of pus in the lungs. * * *

Now, what are the anatomical differences between the processes of resolution and gray hepatization? It must be borne in mind that in cases of resolution during the time when the exuded material is being removed there is a free formation of cells in the epithelium lining the air-sacs, and that there is also a tendency to over-rapid cell-increase within the alveolar walls. Now, in the degeneration of which we are speaking, this tendency being exaggerated, cell-multiplication takes place in both of these positions with great rapidity. Within and without the walls of the vesicles cells multiply. More than this, I am convinced, though not in a position absolutely to affirm it as proven, that in all these cases from the very onset the inflammatory products are largely cellular; that the exuded material is very poor in fibrin and rich in cells; that, in other words, the affection approaches closely the catarrhal type. The sputum in such cases certainly indicates it; and it is inconceivable that a mass composed chiefly of fibrin filament should be changed into a purulent, cellular liquid.

However this may be, excessive cell-multiplication—a multiplication so rapid that reproduction takes place at the expense of vitality—occurs on and within the walls of the alveoli of a lung about to undergo the purulent degradation. Under its influence the parenchyma of the lungs swells up and becomes more dense and heavy. At the same time the granular appearance which the filled alveoli produce in the red hepatized lung becomes less marked, from the swelling of the alveolar walls, and the color changes from reddish to whitish or yellowish. This alteration of the color is evidently due in some measure directly to the rapidly increasing cells within and without the alveoli, but chiefly to the pressure which they exert upon the bloodvessels, preventing the passage of blood into the affected tissues, which therefore become exceedingly anæmic.

The degeneration of these cells into pus or pus-like globules is of double origin. In the first place, their own native want of vitality facilitates their death; but I believe an even more important factor is the pressure which they themselves exert, cutting off their supply of blood—*i. e.* of nutriment—and causing death by starvation. I want to lay stress upon this point, because this purulent degeneration of the lung is the same in kind as the caseous degeneration—the so-called infiltrated tubercle—caused by the same anatomical changes, only that in the one case the course is rapid, in the other slow; in the one the cells mul-

tiply quickly, drive out the blood, and produce rapid local death, with exudation of more or less serum; in the other the cell-multiplication is slower, the blood-current is more gradually lessened, the death takes place more slowly, and is accompanied with desiccation. The two cases bear almost the same relation to each other that the moist gangrene which follows sudden arrest of circulation does to the dry gangrene caused by atheromatous arteries. * * *

It is in cases of cellular exudation especially that the last termination of acute pneumonia of which I shall to-day speak is especially apt to occur—that which was formerly known as acute infiltrated tubercle.

There is in such cases of pneumonia, from the very outset, an intense and rapid multiplication upon the alveolar walls of the epithelial cells, which, accumulating more and more, at last entirely fill up the alveoli affected. It is self-evident that such an exudation is not nearly so easily gotten rid of as a fibrinous one. The latter may soften and break down into a mucoid mass, but cells do not do this readily. More than this, the tendency to reproduction of cells does not confine itself to the epithelial tissue, but affects also the inter-alveolar tissue, until at last a solid mass is formed, the cells within crowding those without the alveoli. As a result, pressure upon the bloodvessels is exerted, until their calibre is obliterated or the current in them stagnated and the supply of blood to the part is cut off. What then happens? Death of the part affected. The deprivation of blood is, however, gradual, not sudden, and the death is slow. The cells in the interior of the alveoli are the first to suffer, because they are the farthest removed from the nutritive supplies; having from their very birth a tendency to fatty degeneration, they slowly undergo it, and at the same time shrivel up under the pressure, which squeezes out of the tissue the fluids contained in it. Even with the naked eye the change can be marked, commencing as a whitish spot in the middle of a dark mass of consolidated tissue, and spreading from within outwards. * * * *

The degeneration of the cells of the affected part, continuing, spreads from the centre of an alveolar cavity to the alveolar walls, which are soon involved in the common death. Then from the portions of lung not yet affected serum begins to be thrown out, and to permeate the mass, until at last the whole diseased tissue breaks down, melting away alveolar walls and all, and a cavity results.—*Philadelphia Medical Times.*

Medical and Surgical Journal.

BOSTON: THURSDAY, JANUARY 25, 1872.

THE ETIOLOGY OF TYPHOID FEVER.

DISEASE makes no discrimination of social position in its selection of victims, and, other things being equal, prince and peasant are in this respect identically human. The very serious and at one time alarming seizure of typhoid from which H. R. H. the Prince of Wales is at present convalescing exemplifies this equality; but while the mode of attack, the natural course of the disease and its complications have in no essential particular differed from what might have fallen to the lot of the meanest of the heir apparent's prospective subjects, the high position of the royal patient has stimulated a rigid investigation into the conditions which may be regarded as causative of the attack and has suggested renewed discussion of the subject in its general bearings. Medical commissioners were despatched to Londesborough Lodge, where the Prince was thought to have contracted the disease, and it is curious to observe the unanimity which characterizes the results of the inspection, as they are reported in recent English medical journals. A single quotation from the *Lancet* will serve as a sample of the opinions expressed.

"The most damning fact is that two healthy persons (the Prince and Lord Chesterfield) should have been attacked with typhoid fever, the only history common to them both being the circumstance of their having occupied the same bed-room in successive weeks, that bed-room being placed on the summit of a closed sewer with nothing but a few inches of water to protect the sleepers from the probable source of their disease."

Without at present criticizing the justice of such conclusions (which, by the way, reflect pretty clearly the prevailing English

theories on the causation of typhoid), we may observe that no one can deprecate the importance of such investigations as those alluded to. If the causes of enteric fever are preventible, the profession and the public in general have an obvious interest in knowing the fact, and the researches of such men as Pettenkofer and Budd and Murchison possess an important practical bearing. We are glad to note any inquiries, therefore, which tend to throw light on this long-discussed subject.

In this connection, we quote from a recent number of the *Medical Times and Gazette* an article which is in direct relation to this important matter, and which also shows in what high esteem the labors and organization of the Massachusetts State Board of Health are held abroad.

At a time when the serious illness of the Prince of Wales from enteric fever excites such a degree of public anxiety as now exists among all classes, and renders that disease, its probable causes, and usual course a subject of conversation in almost every household, it may not be inopportune to devote a small portion of our time and attention to this subject. In the Second Annual Report of the State Board of Health of Massachusetts (published in January of the present year), among other very valuable papers, we have lately read with great interest an inquiry into the causes of typhoid fever as it occurs in Massachusetts. * * * The general result of the study as to its causes, on the opinions of the medical world, has been to encourage the belief that in some way typhoid fever and filth stand in certain relations. The disease is supposed to be propagated by a poison as definite as that which causes vaccine disease. The vehicles through which this poison has been supposed to be conveyed into the system are various:—1st. Drinking-water made foul by the decomposition of any organic matter, whether animal or vegetable, but specially by excrementitious matters discharged from the bodies of those already suffering from the disease. 2d. Air contaminated by any form of filth, but specially by privies, cesspools, pigstyes, manure heaps, rotten vegetables in cellars, leaky or obstructed drains. 3d. Emanations from the earth, occurring especially in the autumn months and in seasons of drought.

The first of these causes the compilers of the Massachusetts report consider to be essentially English. They state that, in reading the reports of typhoid epidemics occurring in England of late years, it so far predominates over all other imaginable causes, that they are led to believe either that the English drinking-water must be exceptionally dirty, or that medical advisers are unconsciously influenced by preconceived opinions, based upon the ingenious speculations of men of ability who have directed their attention to this form of danger. The American experience on this point seems to be, that while in some instances the evidence collected from various sources was so definite as to leave no doubt that the fever poison *was* received through drinking-water, in others, in which towns have lately been supplied with perfectly pure water, the consequent diminution of typhoid was not to such an extent as might have been expected, supposing impure water to have been the principal source through which the disease was spread. The diminution was only such as might have been looked for if the purification of air rather than of water were in question. The sewerage was improved by the drains being enabled to carry away impurities which would otherwise have lodged. The sewers are more thoroughly washed—and the people too. Cases are reported in which it is impossible to doubt that the disease was received by absorption through the alimentary canal; but in the great majority of cases occurring in Massachusetts in which the causes could be traced, *air*, and not water, must be regarded as the vehicle.

We now come to the second class of probable causes of typhoid—viz., propagation by air contaminated by filth. There is reason to suspect that the fever-producing poison is odorless, and that, under certain circumstances, it may be set free from decomposing substances before the foul-smelling compounds of hydrogen come to give us warning. Hence the danger may be greatest when decomposition is going on under difficulties—when it is impeded, suppressed, or imperfect. When the rotting material is *under cover*, whether in a cellar or in a drain, with a far less noticeable odor accompanying it than is often met with in the open air, or with no perceptible odor, the most disastrous consequences have been observed. As yet we ask in vain from organic chemistry what is that certain something which putrefying material gives forth under such circumstances.

The third class of causes of typhoid may be considered under the head of emanations from the soil. Soil seems at certain seasons to afford the conditions requisite for the

concoction of this subtle poison, and air to be the vehicle by which it enters the body. The exposure of the bottoms of ponds and reservoirs during the season of heat and the season of decay is, of all others, the most frequent single cause assigned for the production of epidemics of typhoid fever in Massachusetts. A rich surface-soil with a sub-soil of clay has been remarked as seeming to co-exist with typhoid. Rock under a rich clay, preventing the subsidence of decaying matters beyond a certain point, where they would meet the constantly-moving current of sub-soil water, also seems likely to exert an influence in favor of the production of typhoid.

The views of Pettenkofer, that epidemics of typhoid fever stand in a fixed relation to certain obscure and as yet inexplicable changes in the soil, which changes are signalized by fluctuations in the height of the ground-water, have been interpreted in England to mean that in seasons of drought foul matters are retained in the loose soil, and that the area of drainage for each well is greatly increased by the subsidence of the ground-water level. In certain English towns the water-level was permanently reduced by artificial drainage, while pure water was brought in from springs and streams for the use of the inhabitants with a marked reduction in the mortality from typhoid. Pettenkofer, however, believes that the soil must be "typhoid ripe" before the disease will appear. While admitting the general importance of having drinking-water free from taint, he thinks that the artificial drainage of English towns signifies no more as regards typhoid fever than the movement of the face of a clock by human hands would influence the rotation of the earth. Setting the soil-clock at typhoid will not cause the disease. Filth will foster and increase its virulence, but will not produce it.

It may thus be seen that all the causes assigned, with the single exception of such changes as may occur in soil through natural processes, are under human control. They are, indeed, instances of human neglect, and, standing in the relation they do to one of our most destructive diseases, they but enforce the truth of the general statement, that clean air and clean water are among our greatest blessings.

Such are some of the conclusions of the compilers of the Report of the Massachusetts Board of Health, and they are true in England as in America—it would be well that the general public of this country were more thoroughly acquainted with them. And we would here observe that the Report in which they are contained is addressed by the Massachusetts Board of Health, not only to the medical profession, but to the general public, and that the paper from which we have so freely quoted, as also all the others contained in the report, are written in simple, non-technical language, perfectly intelligible to anyone of ordinary mental capacity. The example is worthy of imitation in our own country.

Criminal Abortion.—We are glad to note an increasing inclination on the part of the profession to put, so far as may be, some effectual restraint on an evil whose enormity admits of no cavil. The subject of its legal punishment and of the measures best adapted for its repression has occupied the attention of a commission of the New York Medico-Legal Society, and the New York *Medical Journal* contains in its current number a full report of the results arrived at, with suggestions of certain amendments to existing laws in New York. In addition to statutes which already punish the "wilful killing of an unborn *quick* child by any injury to the mother" as manslaughter, and the procuring of any drug or agent, by any pregnant woman, with intent to procure miscarriage as a "misdemeanor" (certain exceptions being made in behalf of the life of the mother), the following act is recommended to remedy the defects in the existing law, the crime being made a capital felony and the minimum of punishment only stated:—

Section 1. Any person who shall administer to any woman with child, or prescribe for any such woman, or advise or procure her to take any medicine, drug, substance or thing whatever, or shall use or employ, or advise or procure her to submit to the use or employment of any instrument or other means whatever, with intent thereby to produce the miscarriage of any such woman, unless the same shall have been necessary to preserve her life or that of such child, shall, in case the death of such child or of such woman be thereby produced, be deemed guilty of a felony, and upon conviction shall be punished by imprisonment in a State-prison for a term not less than four years.

In a communication to the Dublin *Medical Press and Circular*, a recent writer indulges

in a curious study to prove that the discovery of the circulation of the blood is of a date long anterior to the time of Harvey. After commenting on the attempt of Dr. McKeogh to demonstrate Plato's knowledge of the circulation, the author discourses of a still more ancient physiologist. "The wise man," he says, "who averred that there was 'nothing new under the sun,' in his book of Ecclesiastes (xii. 6), speaks not only of the 'silver cord,' or spinal marrow, nor only of the 'golden bowl,' with its organ of thought; but he makes mention, also, of 'the pitcher at the fountain' and of 'the wheel at the cistern.'" These expressions, on account of their analogy with Plato's phraseology, are supposed to possess an important physiological meaning, however hidden, and to point to a knowledge of the circulatory system, a part of the human economy of which Harvey has the honor "not of discovering, but only of being the first to scientifically describe."

A Novel Appliance to Maintain Uniformity of Temperature in the Treatment of Disease.—Dr. Robertson, of Glasgow, utilizes rubber in the following manner for the purpose of securing and maintaining a higher or a lower temperature on the surface of the body. The apparatus consists of rubber bags whose shape is varied to conform to the surface on which it is to be used; within these are a number of compartments partitioned so that a stream of water will freely flow through the whole series. A tube, with stopcock attached, is adjusted at each end of the canal, for the admission and the discharge of the stream. If, for any indication, dry heat is desired, the bag is applied directly to the part and a stream of hot water at the requisite temperature is allowed to flow from a faucet or from a reservoir through the compartments. If heat and moisture are wanted together, the bag is applied outside a poultice or an ordinary fomentation. The mode of securing uniform cold is readily suggested.

Dr. Robertson has tested his apparatus in various diseases of the respiratory organs, and in other affections, with gratifying results.—*British Med. Jour.*

Charcoal in Gastric and Enteric Disorders.—Dr. Rémy highly commends the use of vegetable charcoal prepared from the poplar after the process of M. Belloc. He exalts its efficacy as "truly marvellous" in the treatment of gastralgia, gastro-enteralgia, dyspepsia, pyrosis, the greater number of nervous affections of the stomach and bowels, and constipation. It is a valuable adjunct in the tonic treatment of gastro-enteric affections. In certain cases of dysentery it has also been found very useful, and in one such instance, reported by Dr. Farr, of London, its effect was very satisfactory in the form of enemata.—*L'Union Medicale.*

The following "declaration" respecting alcohol has been recently published in the British Medical journals. It is signed by two hundred and fifty-four physicians and surgeons, including some of the most distinguished names in the profession in Great Britain. Its appearance naturally excites much criticism.

As it is believed that the inconsiderate prescription of large quantities of alcoholic liquids by medical men for their patients has given rise, in many instances, to the formation of intemperate habits, the undersigned, while unable to abandon the use of alcohol in the treatment of certain cases of disease, are yet of opinion that no medical practitioner should prescribe it without a sense of grave resonsibility. They believe that alcohol, in whatever form, should be prescribed with as much care as any powerful drug, and that the directions for its use should be so framed as not to be interpreted as a sanction for excess, or necessarily for the continuance of its use when the occasion is past.

They are also of opinion that many people immensely exaggerate the value of alcohol as an article of diet, and since no class of men see so much of its ill effects, and possess such power to restrain its abuse, as members of their own profession, they hold that every medical practitioner is bound to exert his utmost influence to inculcate habits of great moderation in the use of alcoholic liquids.

Being also firmly convinced that the great amount of drinking of alcoholic liquors among the working classes of this country is one of the greatest evils of the day, destroying—more than anything else—the health, happiness and welfare of those classes, and neutralizing, to a large extent, the great industrial prosperity which Providence has placed within the reach of this nation, the undersigned would gladly support any wise legislation which would tend

to restrict, within proper limits, the use of alcoholic beverages, and gradually introduce habits of temperance.

The State Lunatic Hospital at Northampton.—From the sixteenth annual report of the Northampton Lunatic Hospital, we learn that the number of patients at the hospital on the 30th of September, 1870, was four hundred and five, and two hundred and eleven were received in the course of the official year, an aggregate of six hundred and sixteen, of whom two hundred and eighty-four were men, and three hundred and thirty-two women. One hundred and sixty-eight, of whom seventy were men and ninety-eight women, have been discharged; and sixteen men and twelve women, a total of twenty-eight, have died.

In his report on the condition of the patients, Dr. Earle makes these remarks:—

Dr. Falret, of Paris, has recently published, in the *Annales Medico-psychologiques*, an article upon the use of the bromide, of which I have seen no mention in any American medical journal. Dr. Falret is known, throughout Europe and the United States, as an eminent specialist in the treatment of insanity. He has had a field of observation, in that specialty, as wide as any which the world affords. As an authority, therefore, he is entitled to respect and confidence. In the article mentioned, he speaks of the complications or unfavorable effects resulting from the use of the bromide. These effects are, first, eruptions and other disorders of the skin; and secondly, cerebral effects disturbing the mind. As the medicine is very extensively used in hospitals and in general practice in this country, it may not be out of place or useless here to insert a translation of a part of this article.

Having mentioned the cutaneous eruption, Dr. Falret says:—

"This eruption, in some cases, becomes so considerable as to require the suspension of the medicine. Very severe upon the face and shoulders, it gradually spreads over the whole body. It is accompanied by other varieties of disease of the skin, and acquires such a degree of intensity, of irritation, and of itching, that the patients, even the most courageous, cannot bear it, and imperatively demand the discontinuance of the medicine. Finally, in some cases, boils, furuncles, or anthrax appear, and may mature to suppuration. All the means, however extreme, employed for the suppression of these eruptions, are often insufficient, and it becomes necessary, in order successfully to combat them, to suspend, at least for a time, the use of the bromide.

"The unfavorable cerebral effects have been less studied. They are more rare than the cutaneous disorders. They occur, however, sometimes to a degree of great intensity, especially in private practice. Following the use of the bromide, particularly in large doses, the intellect of the patient is depressed in a very remarkable manner. Memory is lost, and the individual sinks even into hebetude. In other cases, sleepiness and a comatose condition supervene, which may become alarming, and which indicate a sort of saturation, or of intoxication, consequent upon the accumulation of the medicine in the system. If these complications are observed, the use of the bromide should be suspended.

"I have seen, at Bicêtre, a case of sudden death from cerebral and pulmonary congestion, in a patient who was taking the bromide in moderate doses."

Dr. Earle gives in a concise manner an outline of the distinctive features of what may be called the types of the several methods of provision for the insane found in Europe, as observed by him during a recent visit, with the conclusions which have been reached from the experience he has gained from his observations abroad.

Ovariotomy during Pregnancy.—At a recent meeting of the London Obstetrical Society, Dr. Eugene Goddard read the particulars of a successful case of ovariotomy during pregnancy. The patient was 29 years of age, and in 1870 was found to be the subject of an ovarian cyst, but, as there were no urgent symptoms, the consideration of any surgical treatment was deferred. She then became pregnant; and, about the end of the second month of utero-gestation, Mr. Spencer Wells removed the ovarian cyst. Eleven and a half pints of fluid were withdrawn. The clamp was removed, and the bowels acted on the eighth day. Pregnancy went on uninterruptedly, and a living child was born at the full period. Dr. Goddard said that the compound nature of the cyst precluded the idea of tapping, as also did the risk of peritonitis, suppuration of the cyst, and the formation of adhesions. Premature labor was not induced, because the patient was already beginning to suffer

constitutional disturbance from the double burden, and it was doubtful whether, by the time a viable child could be born, they would not have assumed such magnitude as to imperil the patient's safety; whereas, if abortion were induced, the child would be lost and the tumor would remain.

Dr. Ross related a case in which Mr. Wells had operated under more adverse circumstances, as the lady was much broken down in health at the time of the operation. A small ovarian tumor was diagnosticated eighteen years ago. The patient was subsequently married, and Dr. Ross had attended her in four labors. In no instance was parturition attended with any serious difficulty. During gestation the tumor appeared to become smaller. The tumor rapidly increased about a year ago, and Mr. Wells removed it successfully, the patient being about two months pregnant.

Mr. Spencer Wells said that the existence of the cyst for eighteen years, and the pressure on its walls of hard bone-like masses, had led to the diagnosis of a dermoid tumor. He had performed ovariotomy four times during pregnancy, and all the patients had recovered.

Dr. Bantock said that the diagnosis of pregnancy at an early stage, complicated with an ovarian tumor, was not always easy. In considering the performance of the radical operation in these cases, one fact was worth any number of theoretical objections.

Mr. Scott referred to a case of ovariotomy which he had recently performed. The patient had passed through two labors at term in safety.—*British Medical Journal.*

THE following preamble and resolutions in regard to medical education were unanimously adopted by the Montgomery County (Ohio) Medical Society, at a late meeting:—

Whereas, The Medical Department of Harvard Unversity has introduced a new plan of medical education, by which the student advances by yearly steps, with an examination at the end of each year; and,

Whereas, From the fact that medical journals are almost universally appendages of medical schools, such changes as these, and the benefits evidently resulting from them, are not duly placed before the profession; it is, therefore,

Resolved, That we believe this plan of instruction a decided improvement on the plan generally followed; of great advantage to the student, and certain to prepare men better for practice; that as an associate body of private practitioners, without hostility to any college or institution, we hereby express our approval of the plan just introduced by Harvard, tender our thanks for what we sincerely believe to be a decided advance in the cause of medical education, and express our best wishes for her success under the new arrangement.

Resolved, That the Secretary be directed to furnish a copy to the medical journals of the State for publication, and a copy to the Dean of Harvard University.—*Cincinnati Lancet and Observer.*

CROTON-CHLORAL-HYDRATE.—At the recent meeting of German Naturalists and Physicians, Dr. O. Liebreich, to whom medicine is indebted for the introduction of chloral, called attention to the properties of a narcotic agent termed "croton-chloral-hydrate." It is made by passing chlorine into allyl; and is decomposed by alkalies into dichloride of allyl and formic acid, hydrochloric acid being also formed. The first effect of its administration to animals is marked anæsthesia of the head, while sensation is preserved over the rest of the body. Next, there is a general loss of reflex irritability, the pulse and respiration remaining unchanged. If a large dose be given, death is produced by paralysis of the medulla oblongata. The animal may be preserved alive by artificial respiration, the action of the heart remaining unaltered; whereas the final effect of chloral is to produce paralysis of the heart. That death arises from paralysis of the medulla oblongata in animals poisoned by croton-chloral-hydrate, is shown by the fact that contraction of the diaphragm is not produced by galvanism of the central end of the vagus, whereas it follows irritation of the phrenic nerve. When the animal has so far recovered that the breathing has become natural, then irritation of the central end of the vagus produces contraction of the diaphragm. The effects of this agent had also been tried on the human subject in the Berlin Hospital. In a child to which it was given, complete anæsthesia of the parts supplied by the trigeminus nerve was produced, while the reflex irritability of the rest of the body was retained. The pulse and respiration were unchanged in number throughout. Further researches on insane patients gave the same result; and Dr. Liebreich concluded therefrom that croton-chloral-hydrate has the property of inducing profound narcosis of the brain without interfering with the other organs; while a correspondingly deep narcosis produced by chloral is accompanied by general anæsthesia and by dangerous lowering of the heart's action. —*British Med. Jour.*

Medical Miscellany.

THE following odd and suggestive stanzas are accredited to Richard Banister, a surgeon and oculist living in Stamford, England, two hundred and fifty years ago. They are copied from the London *Medical Times and Gazette.*

"A SURGEON DIVIDED INTO FOURE PARTS: OR THE SURGEON'S COMMENT.

"1. A Surgeon's like a God whom they adore:
When death about the sick man's bed doth sore,
Then he hath great respect and high regard,
Fed with the smoaky promise of reward.

"2. But as the Patient doth begin to mend,
So doth the Surgeon's God-head straightway end:
Yet such attendance on him still is given
As if he were an Angel comne from Heauen.

"3. When health and strength the Patients doth inspire
To sleepe, eat, walke, and sit vp by the fire:
Then strait the Surgeon's state Angelicall,
In their respect vnto a man doth fall.

"4. Last when the sick or sore are heal'd againe,
And that the Surgeon seekes reward for's paine;
Hee's neither counted God nor Angel than
Nor is he entertained as a Man.
But (through ingratitude) that hellish euill,
They bid the Surgeon welcome as the deuill."

DEATH OF AN OLD PHYSICIAN.—Dr. Richard S. Spofford, of Newburyport, died in that city last week, at the age of 83 years and 8 months. He took his medical degree at Harvard College in 1815, and began practice in Newburyport in 1816. He was an intelligent and skilful physician, always kind and attentive to the poor. He leaves a widow, two daughters, and one son who bears his name.

DR. NATHAN JOHNSON.—Dr. Johnson died in Cambridge City, Indiana, on the 4th inst., aged 77 years. He was born in Loudon County, Va. His field of practice during the last forty-five years of his life was in Leesburg, Ohio, and in Cambridge City, Indiana. He was a regular subscriber to this JOURNAL during the last forty years.

UNITED STATES PENSION OFFICE.—Dr. George Derby, of the State Board of Health, takes the place of Dr. J. W. Foye on the Examining Board of the pension office in this city. Drs. Horace Chase and J. B. Treadwell compose the rest of the Board. The office has nearly reached the maximum of its disbursements, paying as it does now about $400,000 a quarter to between 10,000 and 11,000 pensioners.

AMONG the losses by the Chicago fire, was included the volume of transactions of the Illinois State Medical Society for the last year. The work was nearly ready for distribution, but the entire edition was consumed together with a large part of the manuscript copy. The Secretary of the Society asks indulgence for the delay and for the maimed condition of the forthcoming edition, a request which will be readily considered with favor.

THE City Physician, Dr. S. A. Green, reports only eleven cases of smallpox at present under treatment in this city.

A YOUNG man from Cardiff, named Howard, has drowned himself at Carlisle, who, in a memorandum, gave as his reason for self-destruction that the Darwin theory having proved men to be descended from monkeys, he did not desire to live. —*London Med. Times and Gazette.*

TO CORRESPONDENTS.—Communications accepted:—Neurasthenia.—Spindle-celled Sarcoma of Choroid; Removal of Eye.—Ventilation of Dwellings and Sick-Rooms.—Account of a Post-mortem Examination following Impalement twenty Years previous.—Trephining in Epilepsy.—Case of Criminal Abortion, followed by Pelvic Abscess.

PAMPHLETS RECEIVED.—Address by Thomas E. Vermilye, M.D., LL.D., at the opening of the Roosevelt Hospital (New York), Nov. 2, 1871. Pp. 27.—Anæsthetics. By Walter Coles, M.D., of St. Louis, Mo. Pp. 14.—Proceedings of the Second Annual Meeting of the State Medical Association of Arkansas, held at Little Rock, Nov. 5th and 6th, 1871. Pp. 39.—The Tribune Almanac and Political Register for 1872. New York. Pp. 104. Price 20 cts.—The Public Ledger Almanac for 1872. Philadelphia. Pp. 56.—Synopsis and Analysis of one hundred Cases of Lithotomy, Lithotrity, &c. By Paul F. Eve, M.D., Professor of Practical Surgery, Nashville, Tenn Pp. 10.

MARRIED,—Jan. 3d, Dr. Robert Albin, of Newport, Miss., to Miss M. C. Onsley.

Deaths in seventeen Cities and Towns of Massachusetts for the week ending Jan. 20, 1872.

Cities and Towns.	*No. of Deaths.*
Boston	113
Charlestown	16
Worcester	25
Lowell	12
Milford	5
Chelsea	2
Cambridge	14
Salem	10
Lawrence	12
Springfield	4
Lynn	11
Gloucester	4
Fitchburg	2
Newburyport	9
Fall River	13
Haverhill	3
Holyoke	1
	256

Prevalent Diseases.	
Consumption	44
Pneumonia	41
Scarlet fever	19
Croup and Diphtheria	7

Of four deaths from smallpox, two were in Salem, one in Boston and one in Holyoke. Of the deaths from scarlet fever, eight were in Worcester, six in Boston, and three in Salem.

GEORGE DERBY, M.D.,
Secretary of State Board of Health.

DEATHS IN BOSTON for the week ending Saturday, Jan. 20th, 113. Males, 66; females, 47. Accident, 1—abscess, 1—apoplexy, 1—aneurism, 1—anæmia, 1—disease of the bowels, 1—bronchitis, 2—inflammation of the brain, 1—disease of the brain, 4—burned, 1—cancer, 3—cyanosis, 1—consumption, 18—convulsions, 4—croup, 1—debility, 3—diarrhœa, 1—dropsy of brain, 1—gastritis, 1—indigestion, 1—epilepsy, 1—erysipelas, 1—scarlet fever, 6—typhoid fever, 1—gangrene, 1—infantile, 4—disease of heart, 5—hæmorrhage, 1—laryngitis, 2—intemperance, 1—disease of the kidneys, 1—disease of the liver, 1—congestion of the lungs, 1—inflammation of the lungs, 19—marasmus, 2—old age, 2—premature birth, 3—peritonitis, 2—rheumatism, 1—suicide, 1—smallpox, 1—teething, 1—syphilis, 2—unknown, 1—whooping cough, 1.

Under 5 years of age, 47—between 5 and 20 years, 5—between 20 and 40 years, 26—between 40 and 60 years, 22—above 60 years, 13. Born in the United States, 79—Ireland, 25—other places, 9.